

may be considered as a well-governed flourishing district. But on this point I need not detain you, as the nature of the district is sufficiently well known.

The villages passed between *Beesa* and *Muttock* are few; the first is a small temporary village occupied by Nagas, about ten miles from *Beesa*. The next is *Dhompson*, a large Singpho village, half way between the Naga village, and *Rapoo*, *Rusoo*; and, lastly, *Rupádoo*. Between this and *Choakrí Ting* no villages occur.

II.—*Corrected Estimate of the risk of life to Civil Servants of the Bengal Presidency.* By H. T. PRINSEP, Esq. Sec. to Govt. &c.

In the number of this Journal for July, 1832, some Tables were published showing the risk of life amongst Civil Servants on the Bengal Establishment, and in a short article the principles were explained upon which the tables had been framed. The method adopted in that article for computing the risks of life in the Civil Service of the Bengal Presidency has met the entire approbation of the most able actuaries in England, and the tables have not only been adopted as affording the best estimate forthcoming of the chances of life amongst persons in good circumstances in the climate of India, but attempts have likewise been made to apply the same method of computation to other services. Amongst others, Mr. CURNIN has, we understand, successfully computed tables framed on the same principles for the Military Services of all the three Presidencies of India, from the year 1765 to the present date,—a work of immense labour, the results of which we have seen in abstract, and lament that the publication of them has been so long delayed. As our Civil Service tables have thus acquired an importance, as well from the use made of them by insurance offices, as from the application of the principle to the construction of other tables, we have deemed it necessary, now that another lustrum of five years has passed since they were framed, to republish them, completed to the close of 1836, and to draw attention a second time to the method adopted in their construction. We will not conceal that a principal motive with us for taking this trouble is that we have discovered some errors in the Tables of 1832, and therefore are anxious to supercede it for practical use by supplying one more accurate. We are glad also to avail ourselves of the opportunity to point the attention of public officers and persons of intelligence at other Presidencies to the expediency of keeping registers and framing similar tables for the different services with which they may be con-

nected. In a very valuable paper drawn up by Mr. GRIFFITH DAVIES for the Bombay Civil Fund, a form of register is given, which, if duly kept, will afford the means of constructing accurate tables for any purposes framed precisely upon our principle, and this table may be adopted for a regiment or for any number of persons circumstanced alike—that is, when in a condition to yield a fair average of casualties, just as well as for a service constituted like the Civil Services of the different Presidencies. The only thing to be attended to is, that in like manner as a separate page in the service registers ought to be set apart for the nominations of Civil Servants for each year, because, for facility of computation, we assume them to be of persons of the same average age, so a separate page must be assigned to persons of the same age when the register is formed for the purpose of obtaining the risks of life amongst persons promiscuously selected, and not of uniform or nearly corresponding ages.

As it is of importance that this should be well understood, and because we wish to inculcate the expediency of framing tables of the same kind not only for his Majesty's and for the Native regiments, but likewise for the natives of cities and towns in different parts of India, we shall devote a few words to a little further explanation of the registers we recommend to be kept. The following is the form into which any number of names upon which it is desired to obtain life results of any kind may be entered, taking care only, as before pointed out, that those entered in the same page are always of the same age at the time of first registry.

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Age 23.	1st year.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	&c.
A. ..	1	1	1	1	1	1*					
B. ..	1	1	1	1	1	$\frac{1}{2}$ died.					
C. ..	1	1	1	1	1 mar.	1	1 one son.	1	1	1	
D. ..	1	1	$\frac{1}{2}$ died.								
	4	4	$3\frac{1}{2}$	3	3	$2\frac{1}{2}$	1	1	1	1	

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Age 25.											
E. ..	1	1	$\frac{1}{2}$ died.								
F. ..	1	1	1	1	$\frac{1}{2}\dagger$						
G. ..	1	1	1	1	1	1	1	1	1	1	
H. ..	1	1	1	1	1	1	1	1	1	1	
	4	4	$3\frac{1}{2}$	3	$2\frac{1}{2}$	2	2	2	2	2	

Now if one hundred names of soldiers were entered in the first column as having come into the country at the age of 23, though every one of them came, perhaps in a different year, still the register for as many years as it may extend in respect to these persons,

* Discharged.

† Returned to England.

giving in each the fact of the individual having outlived that year or not, or any other circumstance or event, must afford the means of computing the different accidents of life for every age that may be reached by the persons so registered, and the results of one page may be combined with those of any other by adding the sum at the bottom of the page to the proper column with reference to age of such other page, and by taking out of the whole the number of deaths or of marriages or of the births of children, male or female, or of any other accident of life that may be recorded in the column to compare with the sum of the lives of the age in both pages or of as many pages as may be brought into the computation.

We presume that every insurance office keeps registers framed upon this principle, but we wish to see them extended to the Army and likewise to some thousands of natives in towns and in the interior, with a view to obtaining the materials for computing the risks and accidents of life amongst these classes at different ages, in respect to which we are at present without any materials for framing a table or estimate of any kind.

The tables given in Captain HENDERSON's article upon the subject of the value of life in India, published in the last volume of the *Researches of the Asiatic Society*, though framed with great labour, are defective in this point*. They afford general averages of the value of life amongst certain classes, but not of the value of life at each year of age, which is a most essential circumstance; and for insurance offices or for institutions which deal in annuities, the risks with reference to age are the main and most important, if not the only, matter for consideration.

It is to be observed that it will not be possible to frame registers retrospectively for any class of persons, unless from peculiar circumstances a given number of names with the age of each individual can be entered for any specific past date, and these can be followed out in all their circumstances to the date of the formation of the registers. This is the principle upon which the previous and present tables have been framed for the Bengal Civil Service, and upon which similar tables have been made for the Army. The nominations of each year to the different services being fixed and known, and the

* Capt. DEHAVILAND's tables for the Madras army are an exception to this remark, as they are framed by years of service on our principle, but the results of the first years of the series give ratios of deaths for those years which cast a doubt on the accuracy of the whole table. Mr. GORDON's army table is of too old a date to be useful.

power existing of tracing almost every nominee, the registers have been made up for past years as completely and accurately as if the nominees of the present year were to be followed prospectively through their career of service to the time of their deaths or retirements. The same principle may perhaps be adopted in framing regimental registers retrospectively for privates and non-commissioned officers, because each individual can similarly be traced, and his age at the time of enlistment or of arrival in India will be on the regimental rolls; but no materials will be any where forthcoming from which to do the same for any class of natives, unless it be for the tenants of the different jails during the period of their confinement for debt or under criminal sentences.

Having premised the above remarks on the general applicability of the method of computation adopted for ascertainment of the risks of life amongst Bengal Civil Servants, it remains to give the amended table, framed from the registers prepared in the Secretary's office at Calcutta for the Bengal Service from 1790 to 1836. The number of individuals of the class whose names are registered, and who have given to our table a first year of life, is now very nearly 1000*, and the average of the first five years is consequently framed on a total of 4525 lives. To the end of the 20th year the number of annual lives now exceeds 300, and the five years' averages are upon numbers exceeding two thousand; the yearly numbers diminish to 100 at the end of the 30th year, only affording for the five years' average of that period of life as many as 660 lives. For the succeeding five years the average is reduced to actual casualties upon 299 lives, and after that the numbers are too small to afford any data that can be relied upon.

To the corrected estimate now given of the risks of life in the Bengal Civil Service, we have added a column for retirements, in order that the curious in Europe may build ingenious speculations thereupon. It is mortifying to observe that the total number of these

* The registered nominations are 1003, but this includes the nominees of 1836 who have not yet given us a first year of life. The following test of the accuracy of our table may be satisfactory.

Nominees from 1790 to 31st Dec. 1836,	1003	
Deaths of table,	335	
Deaths in year of nomination, not included in the table,	8	
Retirements as in table,	177	520
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Remains on the Civil List 1st January, 1837, deducting the		
China Servants,		483

does not equal one half of the deaths, but this statement we would remark is not framed to show the chance an individual entering the Bengal Civil Service has of retiring with a fortune. For the exhibition of that result a very different table must be prepared, framed on the principle of following out the nominations of those particular years of which all the nominees are expended by death or retirement. There are four years in this predicament, the results of which give the following ratios of deaths to retirements.

Nominations.	Deaths.		Retirements.	
	Before 20th year.	In or after 20th year.	Before 20th year.	In or after 20th year.
1790 19	8	3	2	6
1792 18	5	2	2	9
1794 26	12	6	5	4
1798 32	8	8	6	10
95	33	18	15	29
	51		44	

From this it would appear that out of ninety-five Bengal nominations the deaths are 51, or more than half; the retirements are 44, of which 15 occurring before the 20th year cannot be considered as retirements with fortunes made in India. Twenty-nine, however, out of 95, or somewhat less than one-third, is the proportion of retirements with fortune afforded by the results of these four years.

To return, however, to the life tables: we have not thought it worth while to publish on this occasion the extended tables in which the results of each individual year have been combined for the formation of the corrected general result now exhibited. These exist together with elaborate registers with the name of every Bengal Civil Servant inscribed ready to be referred to by any person desirous of looking further into the detail. We explained fully in the article of July, 1832, the method we had followed in extracting and combining these results, and it would be an unnecessary repetition therefore to follow the process of computation again through each of the stages. We conclude with expressing our desire that the present table may supercede altogether Table III. of the article of July, 1832, and we vouch for its superior and, we believe, perfect accuracy. The quinquennial percentage is carried only to the thirteenth year of residence or 49th of life. The results of the remaining years are gathered into our percentage for the whole.

Amended Table for shewing the risks of life in the Bengal Civil Service, founded on the actual casualties upon the nominations made to that Service from 1790 to 1836, the first year being computed from the 1st January, after the year of nomination.

Year of Service.	Age.	Number of Servants.	Deaths.	Total deaths in 5 years.	Percentage rate of deaths in 10,000.	Retirements actual.
1	20		19			2
2	21		22			3
3	22	4525	18	90	199	7
4	23		19			5
5	24		12			7
6	25		10			7
7	26		17			4
8	27	3454½	17	72	208	3
9	28		20			4
10	29		8			3
11	30		6			2
12	31		14			1
13	32	2469½	8	41	166	2
14	33		5			6
15	34		8			2
16	35		6			6
17	36		9			2
18	37	1879	11	44	234	7
19	38		10			2
20	39		8			7
21	40		11			9
22	41		10			6
23	42	1214½	10	43	354	6
24	43		5			2
25	44		7			10
26	45		7			9
27	46		7			8
28	47	660½	3	24	363	8
29	48		4			1
30	49		3			5
31	50		4			9
32	51		1			5
33	52	299	3			5
34	53		6			1
35	54		2			0
			16			
36	55		1			1
37	56		1			5
38	57	109	1	21	486	1
39	58		0			1
40	59		0			0
			3			
41	60		1			2
42	61		0			0
43	62	25	0			0
44	63		0			0
45	64		1			0
			0			